DOCUMENT RESUME

ED 338 052 FL 019 713

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TITLE The Acquisition of V to the Zero Power Movement.
PUB DATE Jul 90
NOTE 9p.; Paper presented at the Annual Child Language Research Forum In: Papers and Reports on Child Language Development, Number Twenty-nine. California, Stanford University, 1990. p96-103.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Foreign Countries; *Grammar; *Language Acquisition; Language Research; *Linguistic Theory; Longitudinal Studies; *Quiche; Syntax; Uncommonly Taught Languages; *Verbs; Young Children

ABSTRACT

A proposal that further generalizes a rule in Government and Binding theory (Chomsky, 1981) is examined for its implications for acquisition of verb movement. Mark Baker's proposal extends the Move-alpha rule to posit that the head of any phrase may be moved to become incorporated into the head of any phrase that properly governs the phrase where the incorporating head originated. The study uses longitudinal data collected for four 2- and 3-year-old children acquiring K'iche'. It was found that by age 2.10 the children seemed to have acquired one construction involving verb movement, and to have begun using the causative construction. Additional observations concerning the relative acquisition of the verb constructions for each child and the applicability of the proposed model are made. The data are seen as providing tentative confirmation for the theory, pending study of many more details of the incorporation process. (MSE)

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The Acquisition of V^0 Movement*

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The hallmark of Government and Binding Theory (Chomsky, 1981) has been its search for grammatical generalizations. The most spectacular of these generalizations is the rule Move α. This rule eliminates the myriad transformational rules that complicated life for the so-called Standard Theory of transformational grammar. In their place, GB substitutes 1 rule--Move α, which simply says 'move anything anywhere.' To prevent chaos from breaking out, GB Theory also includes a set of constraints on phrase structures, which insure that ill-formed derivations are eliminated.

Mark Baker has proposed making the Move α rule even more general. Everyone else had assumed that the Move α rule only applied to whole phrases--as in Wh-questions. Baker pointed out that in noun-incorporation structures only the head of a noun phrase might be moved to (or incorporated into) the verb. This operation can leave the rest of the noun phrase stranded in its original position. Baker extended this idea by proposing that the head of any phrase may be moved (by an extension of the Move α rule) to become incorporated into the head of any phrase which properly governs the phrase where the incorporating head originated. This is a sweeping proposal and one which presents interesting implications for language acquisition. In this paper, I will focus on some of the theory's implications regarding the acquisition of verb, or V^0, movement.

The tree structure in (1) provides an example of how Baker's hypothesis would apply to causative constructions. Many languages derive causativized verbs by adding a causative affix to a regular verb. Baker assumes that such constructions originate as bi-clausal d-structures in which the causative affix serves as the main verb in the main clause. He bases this proposal on his Uniformity of Theta Assignment Hypothesis, which states, 'Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure' (46). Baker assumes that the causative affix is thematically equivalent to an abstract

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*My research on the acquisition of K'iche' has been supported by The Wenner-Gren Foundation for Anthropological Research, The National Science Foundation (Grant No. BNS-8909846), and the General Research Fund of the University of Kansas (Grant No. 3691-XX-0038). I must also acknowledge the support I have received from the K'iche' community where I work and my K'iche' assistants Augustin Huix Huix and Pedro Quixtan Poz.

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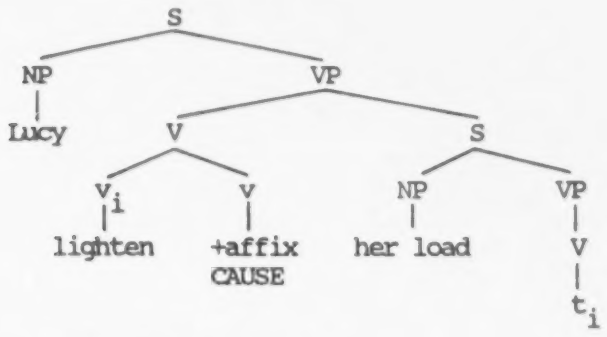
verb CAUSE which assigns both agent and object theme roles. Then Move α may apply to the verb in the lower clause and adjoin it to the verb (the causative affix) in the main clause. If this movement did not take place, the causative affix would be left stranded. This would violate the Stray Affix Filter. Although this filter might appear to be just a gimmick to patch up Baker's version of Move , but it applies to all affixes--not just the causative.

(1) Simplified Causative S-structure



Lucy lightened her load.

I have simplified this example to provide a clearer idea how the basic process works. Many languages, like English, do not allow the causative to apply to transitive verbs. Baker claims this is because the resulting sentences would violate the Case Frame Preservation Principle, which states, 'A complex X^0 (head) of category A in a given language can have at most the maximal Case assigning properties allowed to a morphologically simple item of category A in that language' (122). This principle captures another generalization that seems to hold across languages. If the language permits verbs to have double object NPs, then it is also possible to causativize transitive verbs. Since the causative affix is a verb according to Baker's hypothesis, the resulting complex verb cannot take more NPs than an ordinary, noncausativized verb. English would be a prime candidate for such a process since it contains dative constructions like:

(2) Rose would not give Mortimer the time of day.

I will used longitudinal data that I collected for 4 children acquiring the Mayan language K'iche' to test Baker's theory. A general summary of the language samples for three of the children appears in Table 1. I am in the process of putting this data into the computer, which has allowed me to analyze data from the older siblings of my primary subjects. I have included data from Al Se'p, Al Tiya:n's older sister. Al Se'p was approximately Al Cha:y's age.

Table 1. Ages, number of utterances and MLUs across the K'iche' language samples.

	Al Tiya:n			Al Cha:y			A Carlos		
Samples	age	number	MLU	age	number	MLU	age	number	MLU
1-3	2;1.17	732	1.2	2;9.8	945	1.6	3;1.5	735	1.8
4-6	2;2.6	1069	1.4	2;10.6	1348	2.1	3;1.25	963	2.4
7-9	2;3.19	1155	1.8	2;10.27	1160	2.2	3;4.2	1760	2.8
10-12	2;7.21	844	2.1	3;0.16	1197	2.7	3;4.23	1272	2.8
13-15	2;10.5	1026	2.8	3;1.5	1159	2.7	3;6.26	1333	3.1
16-18				3;2.28	1103	3.0	3;8.5	1508	3.3
19-21				3;4.10	794	3.2			

The sentence in (3) provides an example of the causative construction in K'iche'. K'iche' adds the causative suffix -isa to many intransitive verb stems to produce causativized verbs. K'iche' lacks a double object construction, and as Baker predicts, the use of the causative affix on transitive verb stems is unacceptable. The causative is a highly productive construction in K'iche', but there are a number of intransitive verb stems which do not take it. These lexical exceptions include the verbs pe:t 'come', b'e: 'go', and ul 'arrive here'.

(3) x-ø-r-oq'-isa-j u-lo:ch' le: ixoq
COMP-3A-3E-cry-CAUSE-DER her-baby the woman

'The woman cried over her baby.'

K'iche' lacks a double object construction, and as Baker predicts, the use of the causative affix on transitive verbs produces ill-formed constructions in K'iche'. The causative can be used with a wide variety of intransitive verbs, although there are lexical exceptions.

I provide the K'iche' causative data in Table 2. There is no evidence that either Al Tiya:n or Al Se'p had acquired the causative since they produced so few examples. I think the fact that they also produced these examples in their later language samples is consistent with a late acquisition for the causative. On the basis of their data, I conclude that K'iche' children begin using the causative around 2;10. For comparison, Al Tiya:n began producing the passive at 2;3.

I wanted to know whether the children had acquired a more general principle of V^0 movement. K'iche' contains a verb incorporation construction shown in (4).

(4) k-in-e-ka'y-a
INCOMP-1A-GO-look-DEP

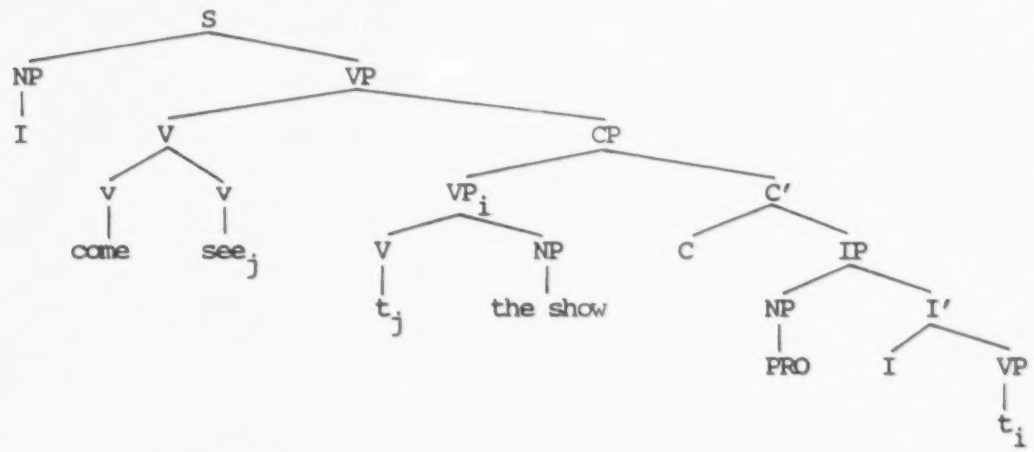
'I will go look.'

k-at-ul-inw-il-a
INCOMP-2A-COME-1E-see-DEP

'I will come see you.'

K'iche' allows reduced forms of three verbs of motion (b'e: 'go', ul 'arrive here', and ikow 'pass') to incorporate into transitive and intransitive verb stems. This would appear to violate the Case Frame Preservation Principle, but note that the subject of the incorporated motion verb is identical to the subject of the verb in the lower clause. This is shown in the following tree structure which uses PRO to identify the subject of the lower clause.

(6) S-structure for verb incorporation



I'll come see the show.

This structure demonstrates another way of incorporating verbs. Here, the entire VP first moves to the complementizer position. Then the verb continues by itself to adjoin with the motion verb, stranding the object NP ('the show') in COMP. I have used this process to demonstrate the flexibility of Baker's theory rather than to claim that verb incorporation uses a different derivational process than the

Table 2. Causative Constructions in the K'iche' data

	Language Sample	Types	Tokens
Al Tiya:n	15	1	1
Al Se'p	12	1	1
	15	1	1
Al Cha:y	1	1	1
	6	2	3
	7	1	1
	12	2	2
	13	1	2
	17	1	1
	18	3	3
	19	2	2
	22	1	1
	24	1	1
A Carlos	7	1	1
	12	2	3
	15	1	1
	18	1	3

The older children, Al Cha:y and A Carlos, show better evidence of having acquired the causative. Al Cha:y's first production was a rather hesitant, syllable by syllable imitation of her older sister--a classic example of what Braine (1976) refers to as a 'groping pattern'. Thereafter Al Cha:y produced 15 tokens of the causative on 7 different verb stems. A Carlos produced 8 tokens on 5 different verb stems.

The children also used the plain counterparts of the causativized verbs at this time. Al Tiya:n used the plain intransitive stem b'in 'travel' 5 times. Al Cha:y used the plain intransitive verb aq'an 'climb' once, kam 'die' 18 times, pagal 'high' 3 times, and the verb walij 'rise' 4 times. She also used plain transitive verb counterparts for the stems chup 'extinguish' and get 'cut'. These verbs have a zero derivation that derives transitive verb stems from intransitive verbs in addition to the causative derivation. A Carlos used the intransitive verb stems b'in 'travel' 14 times, k'at 'shine' 2 times, and ok 'enter' 24 times.

I believe the frequency of the causative constructions as well as the use of intransitive and plain transitive counterparts to the causativized verbs shows that Al Cha:y and A Carlos had generalized the notion of adding the causative suffix to any intransitive verb. They did not overgeneralize the causative suffix to any intransitive verbs where its use would be unacceptable to adults, nor did they use the causative affix with any transitive verbs. Thus, by 2;10 K'iche' children seem to have acquired one construction involving V^0 movement.

causative. Baker discusses the differences between these derivations and their implications for the structure of adult languages.

In K'iche', verb incorporation also changes the termination suffix on the verb to the so called 'dependent suffix'. This suffix is used when the verb is in the imperative or when the verb contains an incorporated motion verb. K'iche' children often produced only the final part of the verb, including the dependent suffix. I have relied on my assistants' interpretation of the children's utterances in these cases, as well as noting that an imperative interpretation is much more likely with second person subjects than with first or third person subjects.

If the children had acquired a general rule of V^0 movement, I would expect them to apply it to both the causative and verb incorporation constructions simultaneously. I provide their data on verb incorporation in Table 3.

Table 3. Incorporated motion constructions in the K'iche' data

	Language Sample	Types	Tokens
Al Tiya:n	14	1	1
	15	1	1
Al Se'p	6	2	2
	13	1	1
	14	1	2
	15	2	2
Al Cha:y	5	1	2
	6	1	1
	7	1	2
	8	1	1
	9	1	2
A Carlos	5	1	1
	6	1	1
	8	1	1
	9	1	1
	16	1	1
	18	1	1
	20	1	1

Al Tiya:n lags behind the other children on this construction. The two examples she produced are from her last samples. Her sister, Al Se'p, has produced quite a range of verb incorporation constructions, as have A Carlos and Al Cha:y.

How did the children do on verb incorporation in comparison to the causative construction? Al Tiya:n's data matches perfectly and A Carlos' data is not far off. Al Se'p has one early use of the verb incorporation construction, but I may have missed recording any of her causative constructions by chance. More interesting is the children's

use of verb incorporation with transitive verbs. They had not overgeneralized the causative morpheme to transitive verbs, so they seem to be sensitive to the constraints on the use of both the causative and verb incorporation. This data seems to support Baker's incorporation account fairly well.

There is one other test of the theory that I carried out with the K'iche' data. The verb incorporation constructions that I have discussed so far involve moving a verb from a lower clause into a higher clause. Verb incorporation requires complex underlying structures, and this would imply that children would have to possess the ability to produce complex sentences before they could produce verb incorporation structures. With this test in mind, I extracted the children's complex sentences. This data is shown in Table 4.

Table 4. Complex Sentences in the K'iche' data

	Language Sample	Types	Tokens
Al Tiya:n	7	1	1
	11	1	1
	15	1	1
Al Se'p	1	1	1
	6	2	2
	7	1	1
	11	1	1
	12	1	1
	13	2	2
	14	1	1
	15	1	1
Al Cha:y	1	1	1
	2	1	1
	5	1	1
	7	1	1
	8	2	2
	10	1	1
	12	6	6
A Carlos	7	3	3
	9	1	1
	10	1	1
	13	2	2
	14	1	1
	15	1	1
	17	3	3
	18	4	4
	20	1	1

This data is complicated by the fact that K'iche' input to the children contains frequent use of a 'he/she says X' routine. These

routines add the verb cha 'say' at the end of the sentence. K'iche' children begin using these forms very early. I have only included the children's first use of cha utterances in Table 4. Counting these utterances as complex sentences would support Baker's theory in a trivial way. However, the children might have simply added cha as part of an unanalyzed routine and not have constructed true complex sentences. For this reason, I felt a more conservative test was in order. Therefore, I extracted more traditional examples of complex sentences from the children's data. These make up the remainder of the utterances shown in Table 4. Only the 2 verb incorporation examples from A Carlos contradict this more conservative test of Baker's Incorporation Theory.

I am pushing the K'iche' data to the limit in using it to test Incorporation Theory. At this time it can only provide a tentative confirmation for Baker's theory. There are many more details of the incorporation process that can be turned into predictions about language acquisition. Baker notes that the causativization of transitive verbs is a highly marked process. This would imply that children might only use the causative with intransitive verbs when acquiring languages that allow the causativization of transitive verbs. The causativization of transitive verbs should also occur after the children have used double object NP constructions. The causative construction also requires the use of verb traces, so children's data might be examined for other evidence of their use of traces. Finally, the verb incorporation constructions use PRO, so children's data might be examined for other evidence that they are aware of the constraints that apply to control structures.

References

Baker, M. 1989. Incorporation. Chicago: University of Chicago Press.

Braine, M. D. S. 1976. Children's first word combinations. Monographs of the Society for Research in Child Development 41 (1, serial no. 164)

Chomsky, N. 1981. Lectures on Government and Binding. Dordrecht: Foris.